G. F. REINHARD.

BLACKSMITH FORGE.

APPLICATION FILED OCT. 31, 1910.

995,182.

Patented June 13, 1911.

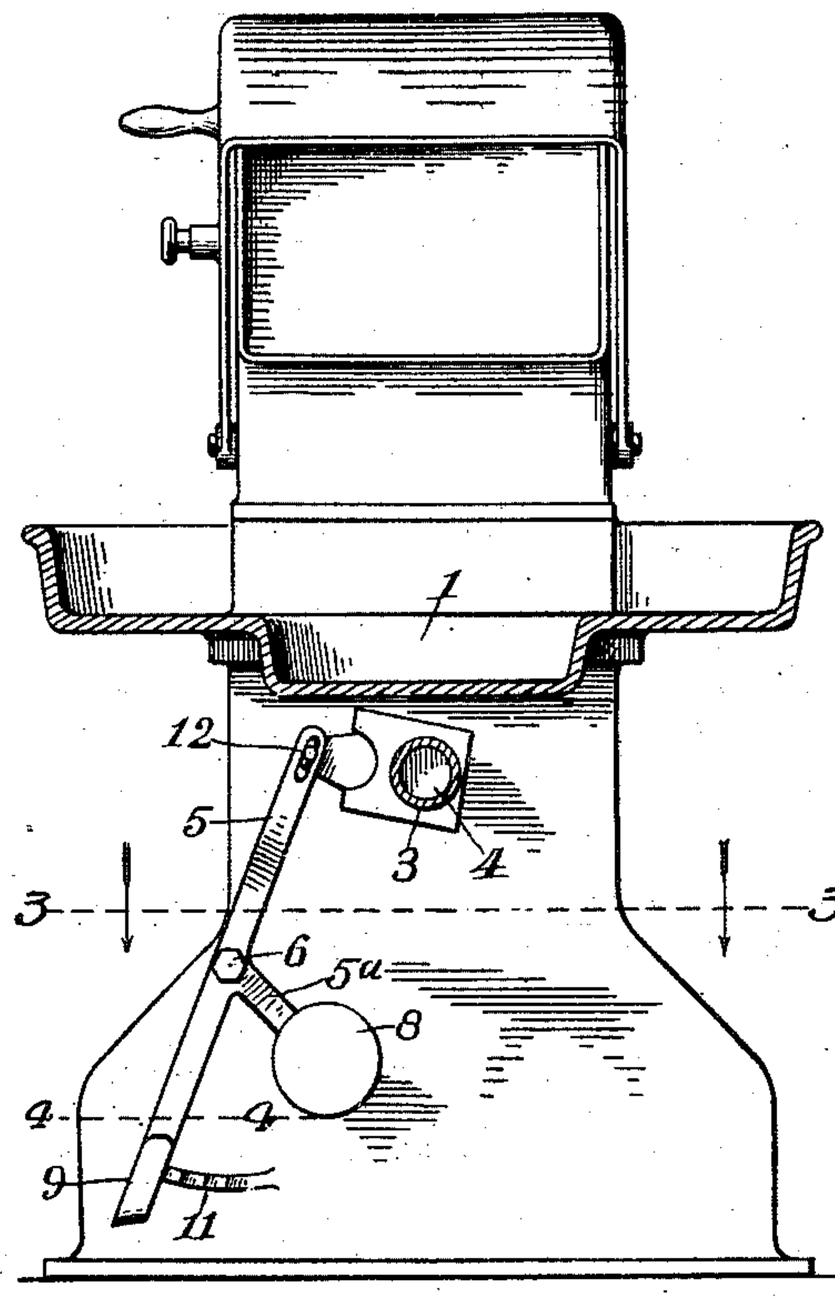

Fig. 1.

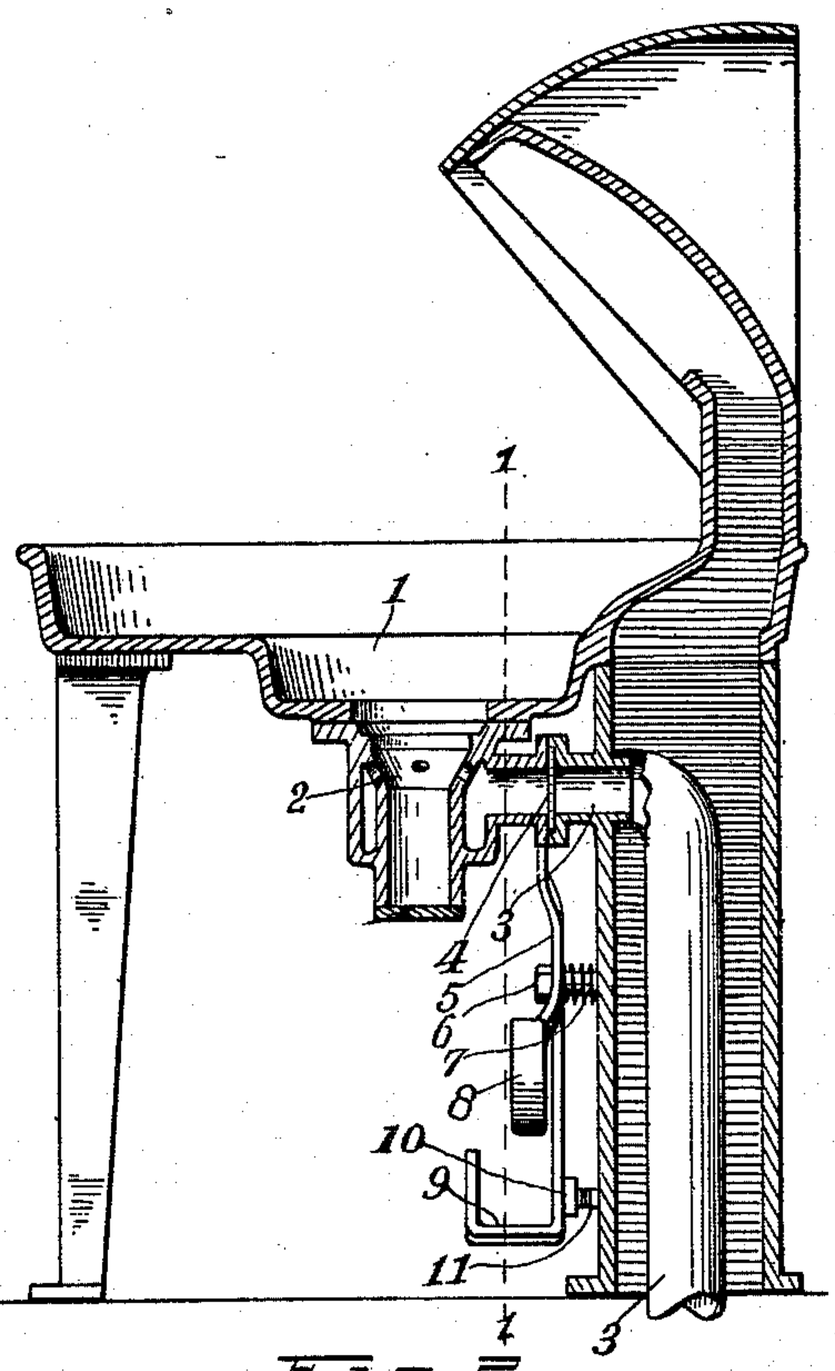

Fig. 2.

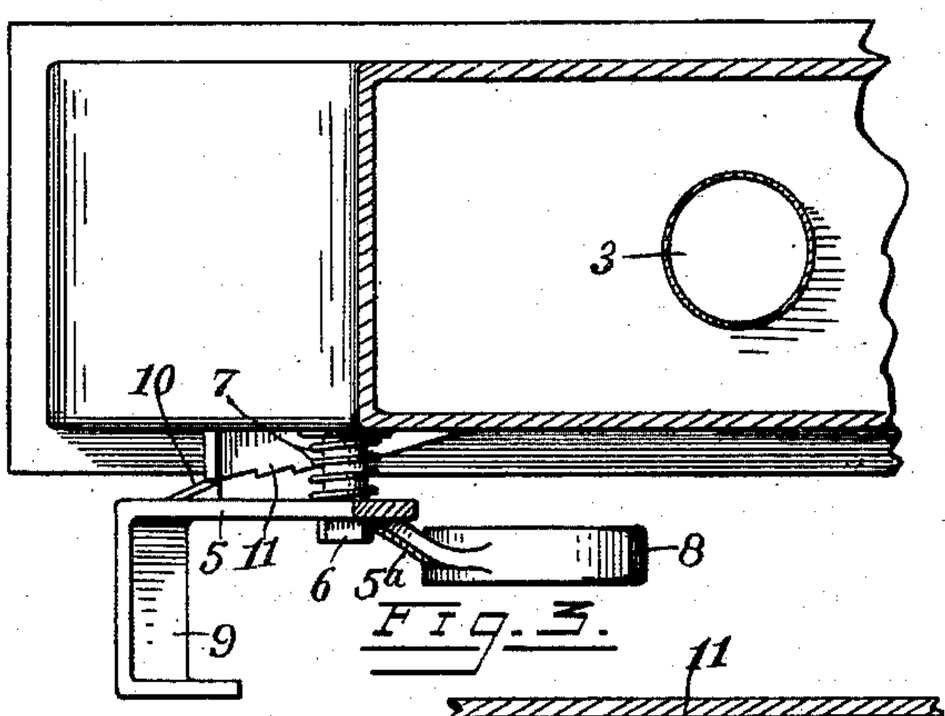

Fig. 3.

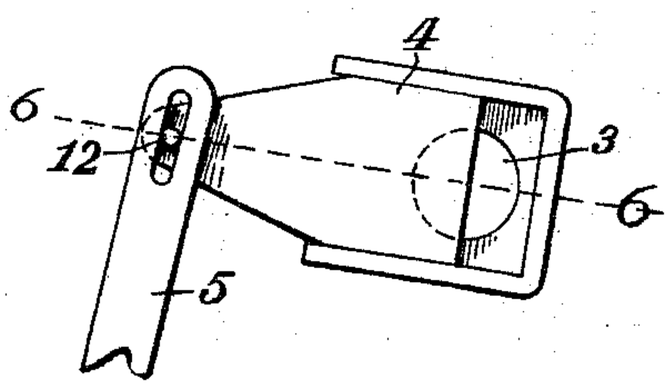

Fig. 5.

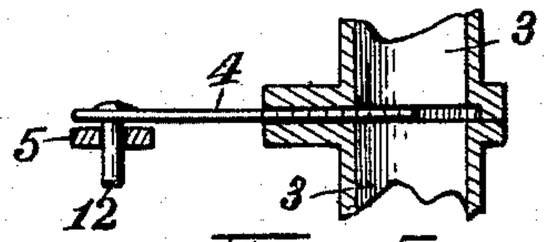

Fig. 6.

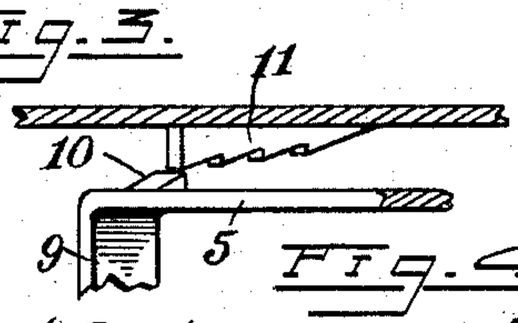

Fig. 4.

Witnesses

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UNITED STATES PATENT OFFICE.

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BLACKSMITH-FORGE.

995,182. Specification of Letters Patent. **Patented June 13, 1911.**

Application filed October 31, 1910. Serial No. 589,910.

To all whom it may concern:

Be it known that I, GEORGE F. REINHARD, a citizen of the United States of America, residing at Evanston, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Blacksmith-Forges; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in blacksmith forges, and more particularly to the means for controlling the supply of air thereto, and it consists essentially of improved means for operating a gate in the air pipe thereof, whereby the gate is automatically and normally closed and may be accurately adjusted and held open to various definite degrees by the operator as occasion may require, as will more fully appear by reference to the accompanying drawings, in which:

Figure 1 is a vertical section on the line 1—1 of Fig. 2; Fig. 2 a vertical section substantially at right angles to Fig. 1; Fig. 3 a horizontal section on the line 3—3 of Fig. 1; Fig. 4 a sectional detail on the line 4—4 of Fig. 1; Fig. 5 an enlarged detail of the gate and a portion of the lever; and Fig. 6 a sectional detail on the line 6—6 of Fig. 5.

Like numbers refer to like parts in all of the figures.

1 represents the fire pot of a blacksmith's forge; 2 the twyer of the same, and 3 the air pipe of the same provided with a sliding gate 4. These features may be of any preferred form, and my invention consists of means for controlling the said gate substantially as follows: A lever 5 is connected to the gate 4 by a pin 12 fixed in the gate and extending through a longitudinal slot in the end of the lever, on which pin the lever is slidable both longitudinally and laterally. This lever is pivoted near the middle on any suitable stud 6, on which it also has a lateral sliding movement and is yieldingly held outward against the head of the stud by a spring 7 coiled around the stud and engaging the lever. This lever is also provided with a laterally projecting arm 5^a extended in a direction suitable to normally close the slide 4 by means of a weight 8 attached to said arm. By this means, the gate 4 is normally and automatically closed at all times by the action of the weight.

9 is a foot rest or treadle on the lower end of the lever 5 by means of which the operator can open the gate by pressure of the foot upon the same. To open the gate step by step and control the same a lug 10 projects from the lever opposite the treadle 9 and opposite the lug is a ratchet segment 11, the teeth of which severally will engage with the lug 10, whenever the lever is moved laterally toward the same against the pressure of the spring 7. The operator can thus by a forward and lateral pressure on the treadle traverse the lug along the ratchet to any preferred tooth therein and thus accurately adjust the opening of the gate step by step, and when through with the forge, the spring 7 will throw the ratchet and lug out of engagement and the weight 8 will close the gate and shut off the air from the forge. By bringing the lug in contact with a tooth in the ratchet, the operator can hold the gate at the required adjustment by maintaining pressure on the treadle, and need not exercise care as to the amount of pressure, whereas, without such a stop or rest for the foot, it would be tiresome and difficult to maintain a steady and uniform opening of the gate on account of the tendency to automatically close when released, thus insuring against inadvertently leaving on the blast after using the fire.

What I claim is:—

1. In combination with a forge having an air pipe and a gate therein to control the air, a lever attached to the gate to open the same, a weight attached to the lever to close the gate, a treadle on the lever, and a ratchet to engage the lever at intervals and adjust the gate.

2. In combination with a forge having an air pipe and a gate in the pipe to control the air, a pivoted lever connected to the gate and adapted to move laterally, a weight attached to the lever to automatically close the gate, a treadle on the lever to pedally open the gate and move the lever laterally, a lug on the lever, and a ratchet engaged with the lug by lateral movement of the lever.

3. In combination with a forge having an air pipe and a gate in the pipe to control the air, a lever connected to the gate at one

end, a stud on which the lever is pivoted and laterally slidable, a spring on the stud engaging the lever to move the same outward, an arm on the lever, a weight on the arm, a treadle on the lever, a lug on the side of the lever, and a ratchet having teeth engaged by the lug when the lever is moved laterally.

4. In combination with a forge having an air pipe and a sliding gate in the pipe to control the air, a pin in the gate, a lever having a slot to receive the pin and slidable both longitudinally and laterally on the pin, a stud on which the lever is pivoted and laterally slidable, a weight attached to the lever to close the gate, a treadle on the lever to pedally open the gate and move the lever laterally, a lug on the lever, a ratchet engaged by the lug when the lever is moved laterally toward the same, and a spring on the stud to move the lever away from the ratchet.

In testimony whereof I affix my signature in presence of two witnesses.

GEORGE FREDERICK REINHARD.

Witnesses:
B. C. ROOK,
J. C. WHITNEY.